

MEDICAL EXAMINER.

DEVOTED TO MEDICINE, SURGERY, AND THE COLLATERAL SCIENCES.

No. 6.] PHILADELPHIA, SATURDAY, FEBRUARY 6, 1841. [VOL. IV.

LECTURES ON THE DIAGNOSIS AND TREATMENT OF DISEASES OF THE LUNGS.

BY W. W. GERHARD, M. D.

LECTURE XIII.—(Continued.)

HECTIC FEVER.

Hectic Fever is a very frequent consequence of tubercles after they have attained a certain stage of development,—not that the fever is peculiar to tubercles, but, on the contrary, it is common to all diseases attended with suppurating cavities communicating with the exterior. It scarcely occurs under other circumstances,—that is, the true hectic; the fever of irritation, on the contrary, is very frequent, when no suppuration exists, and is then very analogous to the initiatory fever of ordinary tuberculous disease. The true hectic occurs in the advanced stages of phthisis, when softening of tuberculous matter has taken place, and a pus-secreting cavity is formed. It is characterized, as is well known, by a strong tendency to a regular paroxysmal type, which sometimes approaches closely to intermittent, and by a pulse, which is at least as frequent, but generally more compressible than that of the early irritative fever.

We may add to the general symptoms of phthisis the extreme exhaustion and tendency to œdema which occur in the latter stages of the disease. These, of course, are not peculiar to it.

2. *Symptoms directly dependent upon the development of tubercles in the lungs.* The bronchial or other inflammations which occur very early in phthisis, are not properly dependent upon this disorder if they precede it, but the true secondary inflammation of the lungs is a necessary consequence of the tuberculous deposit, and is strictly consecutive to it. The signs of the inflammation are of course scarcely different from those of ordinary bronchitis, and have been sufficiently noticed already,—that is, if we restrict the term bronchitis to those cases in which the inflammation extends over a large surface, and is in itself tolerably severe; but if the slighter cases of bronchial irritation, in

which a cough occurs very early in connection with tubercles, are to be regarded as instances of bronchitis, the symptoms are very different from those of ordinary catarrh. It is not possible to discriminate between the influence of the slight bronchial inflammation and of tubercles in the production of the cough. We therefore class both these causes together, and regard the cough which occurs at the commencement of phthisis as the result of either; this is at first very insignificant, and sometimes, though rarely, quite absent. At first it is much more frequent early in the morning than at any other period of the day, although you will find a great irregularity in this respect; it gradually increases in severity, and in the frequency of its return, until at last it becomes severe and more or less paroxysmal. This occurs when cavities of some size have formed, and the liquid contained in them tends gradually to accumulate until it gives rise to a violent paroxysm of cough. In the last stages of the disease the cough becomes feeble and hollow, or cavernous in its character; a circumstance which is familiar to every one who has seen many cases of consumption.

The expectoration is of course nearly connected with the cough; at first it is, like the cough, very slight, and often insignificant; but, after a time, it becomes more and more abundant, and of the usual bronchitic character, for there is either no purulent matter, or this is so small in quantity as not to attract notice. After the tubercles have begun to soften, pus is necessarily found in the sputa, and those are of a yellowish colour, differing often in appearance from ordinary muco-purulent sputa, for the softened tuberculous matter of which they are in great part composed, is extremely viscid and different in appearance from pure pus. If the softening is very rapid, the quantity of the thick pasty substance often amounts to ten or twelve ounces in twenty-four hours. In general, it is combined with more or less thin mucus, which is intermixed with the thick yellow matter. As soon as cavities form, the thicker, more purulent part of the sputa, which is re-

tained in the cavities, is moulded into a rounded, irregular form, often with loose, cottony edges; these portions are suspended, if they contain air, or if not, they fall to the bottom of the transparent mucus. This constitutes the nummular sputa, which are not characteristic of phthisis in general, but only of one stage of it. If the cavities become hard, and cease entirely, or in great part, to secrete purulent matter, the expectoration consists merely of thin mucus, as the lining membrane does not materially differ from that of the bronchial tubes. In the advanced stages of phthisis, and occasionally at a rather earlier period when the strength of the patient is much enfeebled, the walls of the cavity may soften down rapidly, and fall into a fetid, thick, grayish liquid; this is nothing else than gangrene of a tissue partly filled with tuberculous matter.

The gradual obstruction of the lung with tuberculous matter, and its removal by softening, renders so large a portion of the vesicles unfitted for purposes of respiration, that the dyspnoea is always considerable in the advanced stages of phthisis. In the earlier period, however, this will often occur to a greater or less extent, so that dyspnoea is very far from being a mere mechanical result of the obstruction, but is in part caused by the vital action going on in the lungs. It is most severe in acute phthisis.

There is almost no pain from tubercles, properly so called; the uneasiness felt from time to time in the chest seems to depend entirely upon the accompanying inflammation. The local signs purely belonging to phthisis, with the exception of the cough and expectoration, are slight; those belonging to the secondary inflammations are very numerous; even the cough and expectoration may be nearly absent, owing to causes which, in many cases, are not understood. We know, however, that the same causes which render other pectoral diseases latent, act here,—that is, the feebleness of the patient, and the diseased condition of the brain. Hence in lunatics we find that phthisis is always obscure, and sometimes scarcely betrayed by any local symptoms.

Physical signs.—These are amongst the most decided in advanced cases, but very obscure in the early periods of the disorder. We do not now refer to the signs of the concomitant inflammations, but to those of phthisis,

properly so called. At first these are limited to the signs of mere obstruction; the vesicular inspiration is feeble or harsh, and slightly puerile, while the expiration is becoming louder and louder. The character of the respiration, therefore, gradually becomes rude, and at last approaches the bronchial, in which it terminates as soon as the vesicular structure is completely replaced by the tuberculous matter. The bronchial respiration is more or less local, according to the quantity of tubercle, and the more or less obstruction of the larger bronchi themselves: if these remain uncompressed, the air of course passes freely through them, and the bronchial respiration may be tolerably loud; if, on the other hand, they are soon closed, the respiratory sounds are all feeble, as soon as softening begins, a slight rhonchus is heard, approaching more nearly to the sub-crepitant than any other, this gradually passes into decided crackling, and finally into gurgling, as the liquid becomes more abundant, and the cavity increases in size. The cavernous respiration is generally developed with the gurgling, and sometimes replaces or alternates with it.

The signs of percussion are of course limited in phthisis to those of induration of the parenchyma; they give us no information as to the progress or approach of softening. As the tubercles are generally most developed at the summit of the lungs, the dulness is first perceptible there; hence it may often be first detected by percussing above the clavicle, or upon, or immediately beneath it; and however slight the dulness may be, there is little difficulty in distinguishing it, if attention be paid to the natural degree of resonance, and to the comparison of the two sides. The intercurrent inflammation may, of course, give rise to varying degrees of dulness, which may rapidly increase or diminish.

The signs of percussion and auscultation are the most important, but in the course of the disease, attention should be paid to the conformation of the thorax. The parietes of course contract when pleuretic adhesions have taken place; even if there are no adhesions, the consolidation of the lung produces a partial contraction of the tissue, which causes a slight sinking of the ribs; the most important, however, is caused by the adhesions. These are most perceptible near the clavicles and behind

them. The same causes render the ribs comparatively motionless in the same place, as the air enters imperfectly into the tissue which is thus hardened.

It naturally occurs to every one that these signs are rather applicable to the advanced than to the early stages of the disorder; but there are generally some characters which afford a tolerably good indication of commencing phthisis, as soon as a slight deposit has formed, or a partial infiltration of the tissue has taken place. These are not so much signs which are referrible to any of the fixed classes which I described at the early period of this course, but mere trivial alterations of the natural respiratory sounds, which become important from their position and the coincidence of the general symptoms of common phthisis; without these, the signs are of some value, though a very limited one. Thus the commencement of a rude respiration, which is denoted by a trifling increase of expiratory sound, especially if in the left side, or a harsh rough inspiratory murmur, which differs from the natural vesicular sound, are both of some value, if they are combined with a slight dulness on an extremely careful percussion. That is, always with the proviso, that the general symptoms should be in some degree developed, for I cannot repeat too often that the general signs are at the commencement of the disease the most important. But if the physical signs are added, a probable opinion may be converted into a certain one, which affords a good measure of the degree of the disorder; if they are absent, the importance of the general signs is diminished, but not destroyed.

The physical signs of deposit and softening of tubercle extend gradually over the lungs, in proportion to the progress of the disorder, until a considerable portion may be involved. But the parts last affected do not offer as well marked characters as those first attacked; hence the respiration in the parts which remain comparatively healthy, becomes in a great degree supplementary and puerile; and, even when tubercles have invaded it, the vesicles still dilate, and their peculiar murmur is still loud and harsh, notwithstanding a certain number of them may have become impervious to the air.

3. *Symptoms dependant upon the accessory disease of the lungs and air passages, including larynx and trachea.*—To a great extent the re-

marks relative to these affections have been already anticipated, from their necessary connection with the subjects previously treated of. Thus the secondary inflammation of the bronchi produces few symptoms differing from those of the tuberculous disease of the lungs; the bronchitis, however, may occasionally become acute, and thus the rapid increase of the cough and dyspnœa, and the formation of the characteristic rhonchi, establish the nature of the intercurrent affection. The sputa are also often increased in quantity, and become more transparent, like those of the earlier stages of ordinary bronchitis. Pneumonia too gives rise to increased dyspnœa, and to more or less crepitus and fullness of respiration, with frequently a viscid transparent expectoration; but the bronchial respiration is much less loud than in ordinary pneumonia, and the increase of dyspnœa is much less considerable than we might *a priori* suppose it to be. In other words, the chronic disease modifies the symptoms of the acute affection. The secondary pleurisy is almost always of the dry kind. Effusion sometimes, however, takes place during more advanced stages of tuberculous disease, but this is rather an exception than a rule; the ordinary symptoms of the pleurisy are pains which vary from a mere stitch to a severe, sharp, lancinating pain, preventing the patient from lying on the affected side. The flying or wandering pains which are at times felt in the thorax during the course of phthisis, are probably dependent upon the same pleuritic complication, although this is not perfectly certain.

The inflammation of the larynx and trachea has a much more important connexion with phthisis. Chronic laryngitis is often called laryngeal phthisis, which is a sufficient proof that a close connexion or a great similarity was supposed to exist between these diseases. When the affection of the larynx occurs late in phthisis, it is absolutely secondary, and results, in part at least, from the irritation of the sputa passing from the lungs over the larynx and trachea, and thus giving rise to inflammation and ulceration; but the form of chronic laryngitis which attracts most attention is that in which the lesion has preceded the disease of the lungs, and for a long time may appear totally independent of it. But after a time, which is very variable as to length, the signs of consolidation of the lungs are apt to supervene, and the case

may then terminate in decided phthisis. From our knowledge of this frequent connexion, we must be cautious as to the prognosis of such cases. It is true that if the laryngitis can be arrested at a tolerably early stage, the patient will probably not become consumptive; but should it resist our efforts of cure, the disease almost always terminates in a tuberculous affection: this is the case both with the common and syphilitic varieties of acute laryngitis. Of course the existence of a highly developed tuberculous diathesis greatly enhances the danger of the case, and, under these circumstances, the laryngitis is sometimes little else than the commencement of the morbid phenomena.

The same remarks apply to chronic trachitis, except that it is a more obscure affection, not connected with a special function like the larynx. The symptoms are generally merely cough, with an obscure sensation of tickling or soreness above and immediately below the upper margin of the sternum; while those of laryngitis, in addition to the sensation of irritation, are hoarseness, gradually passing into aphonia. The trachitis is less important in itself than the laryngitis, unless there be some evidence of general tuberculous disorder, when it is quite as grave. Like the laryngitis, it should be removed as soon as possible.

The disease known by the name of chronic pharyngitis, or sometimes "clergyman's sore throat," is occasionally connected with phthisis. But the connection is rather an accidental than a fixed one, for the disorder consists essentially in an inflammation of the fauces, including uvula and tonsils. It is certainly rather more apt to occur in individuals who offer the characters of the serofulvous diathesis, than in others; and it has apparently some agency in favouring the development of phthisis in these individuals.

ORIGINAL COMMUNICATIONS.

TRANSACTIONS OF THE PATHOLOGICAL SOCIETY.

January, 1841.

Comparative Pathology.

DR. HALLOWELL presented the uterus of a lioness which had been ruptured during the act of parturition. The keeper had inflicted a number of hard blows upon the abdomen of the animal with a long pole, to which a rod of iron was attached. One of the cubs was found in the vagina; the other two were reduced to pu-

trilage, and occupied the horns of the uterus. He also presented two specimens of tuberculous disease; one of these was the lungs of the *Harpyia destructor*, a species of large eagle from South America, remarkable for the great development of the lower extremities; the tarsi measured four inches in circumference; tuberculous matter was deposited upon the mucous surface of the large, as well as the smaller ramifications of the bronchial tubes, so that a probe introduced into the cavity of the former was made to pass with some difficulty into the trachea. The other specimen belonged to a species of *Ateles*, or long-tailed monkey from South America. The upper lobe of the right lung presented a large anfractuous cavity, lined in part by a false membrane; the lower lobe was greatly enlarged, and much heavier than the corresponding lobe of the opposite lung; it was completely infiltrated with tuberculous matter; the bronchial glands were also tuberculous.

Some Account of the habits and post-mortem appearances of a Chimpanzee, (Simia Troglodytes, Linn.,) which died in Philadelphia. By EDW. HALLOWELL, M. D. Presented, with the Specimens, to the Pathological Society of Philadelphia.*

The subject of the present notice was brought in the Saluda from Western Africa, in the summer of 1839.

She was caught about twenty miles from Monrovia, by the natives, who shot the mother, and found the young animal clinging to her breast. She remained with her captors several years, when she was sold to one of the colonists, of whom she was purchased by Dr. Goheen, who brought her to this country, after remaining six months in the colony. At this time she was supposed to be about four years

* *Syn. Simia troglodytes*, Blumenbach, Manuel d'Histoire Naturelle, tom. i. p. 82.

Troglodytes chimpanzee, *Troglodytes niger*, Geoff. St. Hilaire, Annales d'Histoire Naturelle, tom. xxx. p. 87.

Jocko, Buffon, Hist. Naturelle, tom. xiv., fig. 1., p. 72.

Pongo,† Buffon, Supplement, tom. vii. p. 2. *Pongo*, Audebert, Hist. Nat. des Singes et des Makis, pl. 1. fig. 15.

Simia troglodytes, Cuvier, Regne Animale, tom. i. p. 89, 2d ed.

Troglodytes niger, Desmarest, Mammalogie, p. 49.

Chimpanzee, *Black orang*, *Pigmy*; *Angola Ape*, Vulgo.

† The term *Pongo* is now reserved exclusively for the *orangs* inhabiting the islands of Borneo and Sumatra, and is applied more particularly to the adult *orang*, *Pongo Wurmbii*, Geoff., which is considered by Cuvier, Owen, and others, as identical with the *Simia satyrus* of Linnaeus.

old. A short time after her arrival she was deposited in the Philadelphia Museum, and was subsequently taken to Columbia, Pa., where she was sold for the sum of three thousand dollars. She was afterwards exhibited in New York, Philadelphia, and other northern cities. Not having seen her during life, I can say nothing of her habits from personal observation; but the following account of them, contained in a letter from my friend S. S. Haldeman, Esq., a distinguished naturalist of Columbia, may not be uninteresting.

"*Dear Sir,—*—Agreeably to your request, I furnish you with a few notes on the habits of the *Simia troglodytes*, Lin., brought to this country by Dr. S. M. E. Goheen, physician to the mission on the Gambia. Having observed the animal yourself, it is unnecessary for me to say any thing respecting the external characters; but I may mention that Dr. Traill's description applied to this animal in every respect, except that the hair upon the head was longer than in the Liverpool specimen, and the abdomen was not bare, although it had been, six months previously, as I learned from Dr. Goheen. The size of the two was nearly the same, Jenny having been between thirty and thirty-one inches high, in August, 1839.

"She was afraid of dogs, which she would beat off with a stick, or at which she would throw stones, with considerable force; but in an awkward, ill-directed manner. A large stuffed Iguana caused her to show the greatest terror, from which we may infer that they have cause to fear the serpents in their native forests.* She generally walked upon all fours, with the callous knuckles of the anterior extremities applied to the ground, except when she carried any thing, and then she seemed to prefer the upright position. She appeared to feel uncomfortable towards evening, and would place a blanket around her shoulders, in the manner of a shawl; when, if she had occasion to move, she would rise, as her hands were employed in holding her blanket. She kept awake during the day, and slept at night, being very careful to have herself well covered in her bed. She acquired from the negroes a habit of wearing a cloth around the loins, and whenever she could get any thing suitable, would apply it for a half day at a time.

* The keeper, Mr. Elisha Hansen, who is quite an intelligent man, stated to me that she always manifested a great dread of serpents and tortoises; the small, as well as the larger species of the latter, were objects of aversion. Among the reptiles exhibited at the menagerie in New York was a living horned toad, (*Phrynosoma cornuta*, Wieg.); when first observed by her she betrayed marked signs of fear, approaching it cautiously, and then retreating from it; she gradually, however, assumed more courage, and at length touched it with her hand: finding it harmless, she ventured still further, and taking it by the tail, examined it first on one side, and then on the other.—E. H.

"Her passion for imitation was very strong, and it may be worth mentioning that the phrenological organ was very full. This faculty gives one a strong bias to overrate the intelligence of the animal, as it is difficult to see certain actions performed, without referring them to the mental source which would give rise to them in ourselves. Thus I have seen Jenny imitate (from memory) a washerwoman, by standing beside a vessel of water with a cloth in her hands, which she would soap, dip, rub a while with both hands, wring out in the proper manner, and finally open out. She was very averse to putting her hands in cold water. She was a long time learning to unlock her chain; because, although she could insert and turn the key until it came in contact with the bolt, she appeared unconscious that a little more force should be applied at that point. She was very careful to prevent her chain from becoming entangled with sticks; and if it were purposely done, she would exercise much tact in disentangling it. When at liberty, instead of allowing her chain to drag along the ground, she carried it upon one arm, going upright, or with one hand applied to the ground. She refused scarcely any thing eatable, preferring sweet food, having no objection to meat, and relishing fried salt ham. She was fond of tea, coffee, and wine, and would smoke a pipe as if she enjoyed it,—differing in this respect from the *Papio mormon* in a London menagerie, which would not smoke without the prospect of a glass of spirits. She used a knife, fork, and spoon, and drank from a saucer or tumbler, without risk to the latter—her hand being large enough to grasp an object three inches in diameter. In drinking she did not put her snout in the glass, but placed its edge between her lips. Bright objects, such as a metal spoon, pleased her, and she would frequently scour them, but more I suspect, to imitate the action, than to brighten the metal.

"The disposition of this animal was very mild, and she was very fond of romping with negro children, her chief playmates in Africa. When at play, her countenance would sometimes assume every mark of pleasure. When tickled, she emitted a kind of laugh from the throat, unaccompanied by any voice; but if pleased, she signified her satisfaction by a succession of sounds in a low key, like that of the English letter *u* in the syllable *but*; thus, *u u u u*, at the rate of about six impulses in a second of time.

"Notwithstanding her mild temper, she would occasionally show all the vagaries of a spoiled child,—such as pouting, getting in a passion, and crying, or throwing away her food, or whatever was within her reach, and at such times refusing to be pacified with sweet-meats, or by gentle means. A free use of the whip on these occasions, was the only method to make her conduct herself properly. She

sometimes killed flies by clapping her palms forcibly together as they flew past her.

"I observed Jenny, from time to time, out of doors, for a month, and when she had not purposely been taught any tricks. From these observations I formed the opinion that she possessed the intelligence of a child from sixteen to eighteen months old, as at this age children have not the faculty of language, and do not attempt to articulate;* but they are sufficiently observant to imitate actions.† I will give a single instance, from personal observation, to illustrate the intelligence of this animal. She was eating broken cherries in milk, holding a spoon in one hand, and the saucer in the other. When the food was nearly exhausted, it became difficult to fill the spoon, which she then used as a fork; but it was not very suitable, and the last morsel would not stick to it, when she tried to get it into the spoon again, but without success, the morsel sliding up the side of the saucer until it was nearly ready to fall over the edge. Of this she appeared to be aware, and was on the point of placing it in the spoon with her lips, but a word prevented it; the cherry was too precious to be lost, and it would fall over the edge rather than enter the spoon. In this predicament she raised the spoon, and with its back pushed the morsel from the edge to the centre of the saucer, apparently that she might have room to get it into the spoon. It approached the edge again, and was pushed back as before, when she was allowed to pick it up with her long flexible lips.

"The canine teeth in this subgenus are fully as large as in the carnivora, and I have reason to believe they are employed defensively. They are doubtless of service in breaking open husks, or splitting decayed wood for the purpose of getting insects. It is not improbable, judging from their habits in confinement, that they are partially carnivorous in a state of nature.

"The Linnaean name *Simia* has been very improperly dropped by most naturalists, when it should have been retained for the most typical subgenus of the family; and this I believe to be *Troglodytes* of Geoffroy. In case *Pithecius* is considered as the typical subgenus, the name *Troglodytes* must be changed, being pre-occupied in ornithology; and the animal noticed above might be called *Chimpanzee troglodytes*, with the citation of Linnæus as the first author who characterized it, under the specific name it now bears.

* The Simiads would not articulate if they were provided with vocal organs, because they have not the faculty of language.

† It is evident that the desire to imitate conduces very much to the advancement of the child; but when this faculty is so highly developed in a quadruped, we are led to wonder of what use it can be in their economy. To determine this, it will be necessary to study the animals in their native state.

"I have an accurate portrait of Jenny, the size of life, which I had painted whilst she remained in Columbia. If you have any use for it, it is at your service.

"Respectfully, yours, &c.

"S. S. HALDEMAN.

"*Wasp Hall*, 24th July, 1840.

"P. S.—By a reference to a number of 'Africa's Luminary,' a paper published in Liberia, I find that Jenny was two feet four inches in height, about the 5th of April, 1839, and was supposed to be about four years old."

Until September, the health of "Jenny" continued perfectly good; she was indeed quite fat, and her spirits were always very lively; in the latter part of that month she was attacked with diarrhoea, which lasted four days, the discharges were slimy and bloody, but whether painful was not observed. About a week before Christmas, she was attacked for the first time with cough; she had been kept in a warm room, but the temperature does not appear to have been regulated; the cough increased in frequency, and was in a short time accompanied with a profuse expectoration. Emaciation now advanced rapidly, her breathing became much oppressed, and there was a total loss of appetite. She never had hemoptysis. A week before her death she was attacked with vomiting, which lasted a day only. During the last days of her illness her sufferings were extreme; her keeper, who appears to have been much attached to the animal, states that her countenance exhibited marks of the greatest distress, and that she frequently extended her hands towards him as if imploring relief. She died on Tuesday, the 27th of April, about four months from the invasion of the cough. During this time she had no diarrhoea. The following are the notes of the autopsy: (When I first saw the animal, the skin had been removed, and the extremities were separated from the body. The thorax had also been opened by several medical gentlemen, but the parts were little disturbed.)

Brain.—But little blood upon the surface of the dura mater; veins of pia mater moderately distended; arachnoid moist, transparent, no effusion beneath; the pia mater is much injected both upon the base and upon the convex surface of the brain; on the posterior part of the left hemisphere, there is a slight ecchymosis; no tuberculous granulations; convolutions more flattened than in the human subject; cortical substance of a deep ash colour, not injected, about a line and a quarter in depth; medullary substance pale and quite firm; no serosity in cavity of ventricles; thalami nervor. optic. corpora striata, pons and medulla oblongata apparently of normal consistence.

Neck.—Uvula, pharynx and tonsils much injected; in the right tonsil is a small grayish ulcer about a line in diameter; lining membrane of larynx pale, not ulcerated.

Thorax—left lung.—Pleura free; no tubercles; the lung itself is of a reddish brown colour externally; the upper lobe is engorged and contains a few miliary tubercles in its summit; the lower lobe is covered with a delicate false membrane, of a light yellow colour, easily separated from the surface of the lung; the pleura beneath is much injected; the tissue of this lobe is more condensed than that of the upper, and is of a paler colour; in its centre is a small abscess about the size of a pea, containing softened tuberculous matter. The pleura contains about a gill and a half of pus of a dirty white colour, and of cream like consistence; its surface is covered with false membranes, which adhere to it but slightly. In the upper part of the *right* lung is a large tuberculous cavity; it occupies a considerable portion of the upper, and nearly the whole of the middle lobe; no lining membrane is observed in it, its walls being formed by the tissue of the lung itself; the lower lobe is friable, and of a grayish white colour throughout, the tuberculous deposit existing here in a state of infiltration. The bronchial glands are much enlarged and tuberculous; one of them measures an inch and a quarter in length by three-fourths of an inch in breadth; another just within the bifurcation of the trachea, is an inch and a half in length; it is more or less softened; lining membrane of trachea and bronchi much injected, but not thickened. Several small ulcers are observed near the origin of the latter.

Heart, two and a quarter inches in length, measured upon its anterior face from origin of aorta; circumference at base three inches; there is a considerable quantity of fat about the origin of the large vessels, and at base of auricles, also at its apex; valves healthy; pericardium pale, not containing any fluid.

Abdomen.—Peritoneum pale; intestines pale and moderately distended; a considerable quantity of fat between folds of omentum; no fluid in abdominal cavity. *Liver*, six inches by four, of a slate colour above, except in a narrow space along its anterior margin, where it is brownish red, marked with yellow; internally it is of a pale flesh colour, and of good consistence, not fatty; at its left extremity, near the edge, upon the upper surface of the liver is a tuberculous deposit six lines in length by four in breadth; it penetrates about four lines into the tissue of the gland; gall bladder distended with bile of a bright orange colour; its coats appear much thicker than in the human subject. *Spleen*, four and a half by two inches, of a light slate colour externally; tissue reddish brown and friable, containing numerous tubercles, many of which are in a softened state. *Pancreas* healthy. The *stomach* contains a moderate quantity of fluid, without perceptible odour; mucous membrane pale, and apparently of good consistence for the most part; strips one inch and a quarter being obtained along the lesser curvature, and one

inch in the greater; in the great cul-de-sac, in a space about two inches in extent, it is much softened; the softening appears to extend to the cellular and muscular coats, both of which are reduced into a pulp by scraping with the finger nail; the softened portion is of a grayish white colour, with several blackish spots near its centre; the mucous membrane surrounding it presents a slight rose coloured tint, with a few small arborizations. The *small intestine* contains some yellowish matter of the consistence of thin gruel; the mucous membrane is perfectly pale throughout; strips four lines in length are obtained in the duodenum and five or six in the ileum; the mucous cryptæ of the duodenum in a space five inches in extent from pylorus are quite apparent; they are about a fourth of a line in diameter, each having a minute central orifice, hardly perceptible to the naked eye; the isolated follicles in other parts of the intestine are scarcely visible; the mucous membrane in an extent of six feet from pylorus is perfectly free from ulceration, as is also the ileum for twenty and a half inches from cæcum; in the intermediate space eleven ulcers are observed, of a rounded form for the most part, with thickened edges; the smallest is about the size of a pin's head, the largest measures eight lines in length by four in breadth; several of the ulcers are quite superficial, not penetrating beyond the mucous coat; they are situated in the upper part of the space indicated; the others, or those nearer the cæcum, are deeper, the submucous tissue being more or less thickened, and in places destroyed, leaving the muscular coat exposed; in several the ulceration has penetrated as far as the peritoneal coat, very slight traction being sufficient to cause its rupture; the *plaques of Peyer*, of which thirty were counted, are generally healthy; five of them present ulcerations of various sizes, and one appears to have been entirely destroyed; the surrounding mucous membrane as well as the ulcers themselves is perfectly pale; but three granulations are observed throughout the entire tract of the intestine; one of these is situated at the inferior extremity of one of the plaques of Peyer, presenting a slight ulceration upon its surface; the other two are larger, and are about two feet and a half from the lower extremity of the ileum; they are of a whitish yellow colour, and are seen distinctly through the peritoneal coat; the mucous membrane above them is quite pale, and apparently healthy, as well as the surrounding membrane; they are about a line apart, and one of them (the posterior) is within three lines of the attachment of the intestine to the mesentery. The *large intestine* contains a considerable quantity of yellowish faecal matter; the mucous membrane is a deep slate colour, which is perhaps the natural appearance; it is apparently of good consistence, yielding strips about eight lines in length; the mucous follicles are greatly developed, being at least three-fourths of a line

in diameter; no *lumbrici* are observed in any part of the intestines. The *mesenteric glands* are much enlarged, several of them are of the size of an almond; they contain a quantity of white caseous looking matter, more or less softened. *Kidneys*,—two and a half inches in length by two in breadth; colour pale red externally; the cortical substance contains several tubercles, the largest about a line in diameter. Bladder contracted; mucous membrane pale. *Uterus* and its appendages healthy.

The anatomy of the animal, so far as this was subsequently examined by my friend Dr. Grant, a zealous and skilful anatomist of this city, and by myself, corresponded in most respects with the account given by Dr. Traill, in the third volume of the *Memoirs of the Wernerian Society*. We noticed, however, several differences. There were fourteen pairs of ribs,* whereas in the specimen described by Dr. Traill and other anatomists, there were but thirteen. The "very small heart shaped lobule loosely attached to the posterior part of the great fissure on the concave side of the liver," was not observed in our subject; the form of the uterus resembled more the human; although much less distinctly pyriform, it was evidently broader at the fundus than at the apex; the *palmaris longus* was very distinct in one of the arms of our animal, as in that of Dr. Traill; there was no *flexor longus pollicis*, but a small tendinous slip detached from the *flexor profundus* supplied its place. There was no *plantaris*, but the *popliteus* was larger in proportion than in the human subject. The *extensor longus digitorum* sent tendons to four of the fingers, but none to the little finger, corresponding in this respect with the animal dissected by Tyson. There was but one *extensor longus pollicis*. In contact with the *tibialis anticus* was a muscle which does not exist in the human subject; it is inserted into the base of the *metatarsal* bone of the thumb; this muscle, according to Mr. Owen, exists also in the orang utan, and is found in the other simiae; the *soleus* had but one origin arising from the head of the *fibula*; the beautiful but somewhat complicated mechanism for the flexion of the toes was precisely such as is described in the paper above mentioned. Very careful admeasurements were made of the different parts of the skeleton, but making allowance for the greater size of the animal, they did not differ materially from those published by Mr. Owen, in his admirable paper on the osteology of the chimpanzee and orang utan.† The external appearance as stated by Mr. Haldeman, differed in no respect from that observed by Dr. Traill, except that the abdomen was sparsely covered

* Two of the ribs were fractured, (the seventh and eighth, left,) and had united in the usual manner.

† *Transactions of the Zoological Society of London*, vol. I. part IV.

with hair, and that the hair on the back of the head was longer, measuring two inches in length.

The height of the animal was thirty-three inches.

Observations.—Comparative Pathology has elicited but little attention in this country, nor even in Europe has it been much investigated, except in relation to the diseases of the domestic animals. Many facts however are recorded in the compendium of Otto, and a number of highly interesting autopsies may be found in the proceedings of the *Zoological Society of London*; among the latter is one of a *Simia Satyrus*, and also of a male Chimpanzee, by Mr. Owen. Mr. Reynaud, a distinguished physician of Paris, has investigated with much care the subject of *Phthisis*,* as it occurs in the quadrumanous animals, nearly all of which, in *confinement*, die of that disease. In the greater part of the cases observed by him, the tuberculous deposit was not confined to the lungs, but existed in other organs, and in several in a degree of intensity but seldom observed in the human subject. The organs most frequently affected were the bronchial glands, the spleen, the liver,† and the kidneys, the latter nine times out of ten; tubercles were found in the spleen eight times in the same number. Many were in a softened state, while no such appearance was observed in the lungs in several cases; hence, it was inferred that in these cases they existed in the spleen prior to their development in the pulmonary tissue. Tuberculous infiltration of the lung would appear to be not uncommon in these animals, M. Reynaud having met with it several times. It will be remembered that it existed in both the specimens presented to the Society. It is remarkable that in none of the cases observed by M. Reynaud, were ulcerations found either in the intestines or in the trachea or bronchial tubes. The symptoms in the chimpanzee whose history I have reported, do not appear to have been as numerous as would have been observed in a case of equal intensity in the human subject; no mention is made of night sweats, and there was no hemoptysis, nor was there any diarrhoea, except in the commencement, notwithstanding the presence of

* *Archives Generales de Medecine*, tom. XXV.

† In six autopsies which we have made within a twelvemonth, of children who have died of tuberculous meningitis, tubercles were found in the liver five times; (three times in the sub-peritoneal tissue, and twice in its substance.) The granulations beneath the peritoneum could hardly escape the notice of one familiar with their appearance beneath the arachnoid, but unless the liver be cut in repeated slices, the tuberculous deposits in its tissue being for the most part small, and few in number, might readily pass unobserved. In one hundred and twenty autopsies of adults who died of phthisis, M. Louis found tubercles in the liver but twice.

numerous ulcerations in the small intestine. It should not be forgotten, however, that the only testimony on this point, is that of the keeper, and should therefore be received with a certain degree of reserve. It should also be stated, that in all the animals observed by M. Reynaud, the cough was dry, expectoration not having been noticed in a single instance; this fact, taken in connexion with the absence of ulcers in the trachea and bronchial tubes, would seem to confirm the opinion of M. Louis, that their presence is due to the passage of the secretions over the lining membrane. In conclusion, we cannot but hope with Mr. Hodgkin, that increased attention may be given to the study of Comparative Pathology, believing, as we do, that "the derangements of structures and organs in inferior animals, are calculated to throw important light on those of man."

THE MEDICAL EXAMINER.

PHILADELPHIA, FEBRUARY 6, 1841.

MEDICAL EVIDENCE.

THE disagreement of doctors has been a standing theme for the jokes of the facetious. In essentials, generally more apparent than real, it is nevertheless at times thrust before the public in a way to impress unfavourably even the most reflecting among lookers on. Physicians of talent and repute are seen to differ upon points of legal medicine, involving life or character. The intricacy of the particular question mooted, the meagreness of the facts bearing upon it, are not allowed for, and the public mind passes to a general belief in the uncertainty and worthlessness of medical testimony. From time to time, too, there spring up a series of criminal cases, puzzling in their nature, and depending for solution upon the testimony of physicians, which may either be conflicting in character, or run counter to the current of popular prejudice. Within a short time several cases of this description have occurred. The opposing evidence of the distinguished chemists, Orfila and Beral, at the trial of Madame Laffarge, in France—the testimony in a recent suspected case of poisoning at Boston—and in one or two criminal cases in this city, involving the subject of insanity, have severally afforded plausible grounds for sneers at the discrepancy and fallacy of medical evidence. The ingenuity of advocates, too, has not been wanting, in turning to account and amplifying apparent va-

riances in the opinions of medical witnesses. It is no difficult task for a clever lawyer to draw on a nervous physician, unaccustomed to the quirks and quibbles of courts, from statement to statement, to conclusions, the exact bearing of which he does not at the moment perceive, but which, reuttered with slight variation of language, produce impressions neither authorized nor intended by the witness. Unimportant differences, too, on speculative points, are readily caught at to play off one physician against another and weaken the value of the evidence which is really germane to the matter. An impression is thus fastened upon the public mind, inimical to the due administration of justice, and hurtful to the cause of science and of truth.

A law journal in Boston, commenting on a late criminal trial in that city, hints that whenever physicians figure in the witness box, there are as many opinions as witnesses. This is very unjust. On the broad questions of medical jurisprudence there is quite as much agreement of opinion as upon other scientific subjects. In most points of toxicology, of medical and surgical pathology, there will be found great unanimity in the testimony of well educated physicians. Occasionally will start up vexed questions which admit of differences of opinion—but these are quite rare. They mostly refer to the delicate subject of insanity, in which the opinion of the medical jurist is, we think, of least value, and where doubtful points are better finally referred to the common sense of mankind. With an exact knowledge of the facts, any intelligent man can decide upon the sanity and responsibility of an individual; nor is it surprising that physicians, like other men, differ in cases of intricacy. A very small portion of the 'glorious uncertainty of the law' can with justice be charged upon medical witnesses.

METEOROLOGICAL REGISTER—BILLS OF MORTALITY.

We commence to-day the publication of a series of meteorological observations from the beginning of the current year, together with the bills of mortality for the city and liberties of Philadelphia—to be continued hereafter weekly. The former will be found full and valuable; the latter are somewhat loose and in-

accurate, but contain much interesting statistical matter.

DOMESTIC.

Death of Dr. Green.—JACOB GREEN, M. D., Professor of Chemistry in the Jefferson Medical College, died on Monday, 1st February. Dr. Green was known as an excellent chemist, and an animated, agreeable lecturer. He was much respected, and is generally regretted.

Albany Medical College.—The committee on medical colleges of the New York legislature have reported in favour of an appropriation to this institution, for the purchase of a library, and chemical and philosophical apparatus. The present class at this flourishing institution numbers one hundred and twenty-three.

Treatment of certain Cerebral Symptoms of Scarlatina by Stimulants, instead of Antiphlogistic Remedies. By T. F. CORNELL, M. D.

Dr. Cornell alludes to the error of always regarding the main symptoms of scarlatina as requiring depletion, and sustains what our own experience has long convinced us of, that depletion is in some cases exactly the contrary of the proper remedy. The only difficulty is to distinguish the cases; those given by Dr. C. will probably give a good idea of the points to which he alludes.

I will now subjoin a crude report of two cases of *scarlatina encephalica*, as examples of the condition and treatment for which I have been contending; and for the purpose of further illustrating my point, I will briefly notice the symptoms and treatment of variola, puerperal fever, and burns, by reporting an instance of each. The two first will be detailed at length, in order that the candid reader may deduce his own conclusions after knowing all the circumstances which controlled them.

Case 1.—N. C., a boy five years old, was seized on the eve of Sept. 2d, 1840, with fever. He passed a restless night, and was delirious when morning came. He took a dose of senna and salts, which operated three or four times. A faint rash was observed on the chest, abdomen, and loins; the throat was swelled, the skin hot, and the delirium increasing. The day advanced and things grew worse. In the evening of Sept. 3d, I was called to the patient.

Found him delirious; head hot; eyes suffused, and he took but little notice of any thing

around him. Pulse 150, but *compressible*; skin warm and dry; rash indistinct; tongue covered with white fur on the middle and posterior parts, while the tip was dry and red; the extremities were of a moderate heat; tonsils were much enlarged, and ash-coloured spots were forming on them.

R. *Tart. antimonii*, grs. ij; aq. font. $\frac{3}{4}$ ij; ordered a teaspoonful every fifteen minutes, until emesis was produced; after which, one-twentieth of a grain *taut. emet.* was given every three hours during the night. Mustard *pediluvium*, *sinapisms* to extremities, and barley water for drink.

Sept. 4th, 9 o'clock A. M. The patient had passed a restless night, tossing to and fro on the bed, gritting and gnashing his teeth, screaming out when at all disturbed, and raving furiously. The emetic operated kindly and relieved his throat, and for two hours the delirium abated so much that he talked rationally. His bowels were moved two or three times during the night, but unattended by tenesmus. He is unable to discern objects this morning; the delirium increases; the pupil is unaffected by light; the extremities, skin, tongue, and pulse remain much the same as they were last evening. There appears but little chance for his surviving the day.

R. *Lactis recent. ebul. Oj. Vini Hispan. opt. prep. secund. artem*, and give $\frac{3}{4}$ i every hour; one-twentieth gr. of antimony every four hours. *Pediluvium capsici*, and frictions with *infus. capsici* on the trunk and extremities; ammoniacal linim. to the throat. He was so unmanageable as to defy our using any application to the tonsils.

4 P. M. Symptoms were decidedly worse; the rash was somewhat more distinct, but he acted like a maniac. The features of the case were truly alarming; venesection was proposed as a dernier resort, although it militiated against the theory I entertained, as to the cause of his furious delirium. But as it corresponded with the practice instituted for like symptoms in other cases, and as it was more in accordance with the old school views, three ounces of blood were drawn from the arm. The effect on the pulse was perceptible ere the ligature was removed; the delirium abated for a few minutes only, and then returned; the eruption became less distinct; the extremities grew cold, and a livid hue overspread the whole surface. I felt alarmed at my proceedings, saw my error and was convinced. Stimulants energetically administered would be the only possible method of saving the patient. *Wine whey* was accordingly given every half hour in as large quantities as he would take, which averaged about $\frac{3}{4}$ i at each time. The antimonial was discontinued, frictions with *capsicum* and *flying sinapisms*, were attentively perse-

vered in, until reaction should again be established.

10 P. M. The patient lies comatose; mouth open; grits his teeth when disturbed, and screams out; pupils insensible; refuses to take much drink; continued whey and frictions.

Sept. 5th, 9 A. M. He passed a bad night; the nurse was fearful he would not live till morning. He drank but little, and that was one gill of wine whey; notices nothing; groans out and gnashes his teeth. The tongue is moister than it has been during his attack; skin less hot; eruption more full on body and extremities; pulse 140; pupils acted on by strong light; bowels confined.

R. Sulph. magnes. $\frac{3}{i}$; wine whey and barley water. To keep the room quiet and dark.

9 P. M. Has rested quite well during the day; bowels opened once; drank freely of the whey; eruption complete; tongue moist; throat less tumid; ulcers on the tonsils. He put out his tongue for me when requested; is conscious for a few moments only, and then sinks into a somnolent state. Continued the whey.

Sept. 6th, 9 A. M. Appears decidedly improved. He knew me for the first time since my attendance; is rational; his delirium has subsided; throat bad; deglutition difficult; pulse, tongue, and countenance more natural.

Nit. argenti, grs. vi: aq. dist. $\frac{3}{i}$. to pencil the tonsils with it; whey, &c. as before.

8 P. M. Continues to convalesce; has been free from delirium during the day. He has taken three gills of the best Madeira wine made into whey during the last 48 hours, and has had one evacuation from the bowels. To continue the treatment of the morning.

Sep. 7th, 9 A. M. Improvement is progressive; throat is better; left tonsil sloughing; urine free, eruption fading; pulse 140 and soft; tongue moist over its entire surface; skin of natural heat; prostration great.

R. Sulph. quininæ, grs. iv. arom. sulph. acid gtt. vi. syr. zingiberis, aq. fort. $\frac{3}{s}$ ss. M. $\frac{3}{i}$. every four hours. This boy continued on the quinine and wine whey for several days, and was playing about the room in two weeks from his first attack, and he had no relapse, nor any of the sequelæ incident to scarlatina. Mild but nutritious diet, with an occasional laxative was enjoined, and I ceased to visit him.

Case II.—A. D. a girl aged 4 years, was seized with fever on the evening of June 27, 1840, which was attended with vomiting and purging. The child remained in this state until morning, when it became unconscious of all around her. The vomiting now ceased but the diarrhoea continued.

I was called to the case on the 28th, at 8 o'clock, A. M. I found the girl insensible, head hot, and reclined back; mouth open, eyes rolled up and semi-closed. In a short time, she screamed out and uttered unconnected sen-

tences, tossed about the bed, and understood nothing that was said to her. Her tongue was red and dry, with a white fur here and there; respiration quick and laboured, pulse 145, and compressible; abdomen was tumid, and tender to the touch; extremities cold, eruption very faint, except on the spine and chest. Discharges from bowels were green, slimy, and fetid.

R. Misturæ cretæ $\frac{3}{i}$. Tinct. Cardam. Comp. $\frac{3}{i}$ i., Tinet. Opii $\frac{3}{s}$ ss. to be given after each stool; vessicat. lyttæ, to the nape of the neck. Cloths wet with cold water to be applied to the head. Sina-pisms to the abdomen and the extremities, wine whey and arrowroot with brandy as drink. Starch enemata with Tinet. Opii to arrest diarrhoea.

6 o'clock, P. M. Delirium has increased, heat of head continues, pulse fuller and not so frequent, diarrhoea less urgent, the discharges are passed *involuntarily*, the extremities are warmer. Has drank a gill of wine whey, and the same quantity of arrowroot, with half oz. of brandy in it. Continued the same treatment.

29th, 9 o'clock, A. M. Passed a poor night, knows no one; is very unmanageable when touched or spoken to, frequently screams out and then falls into a sleep. Continued the whey, chalk mixture, arrowroot, and brandy.

6 o'clock, P. M. She is more composed, and drinks the whey freely; still remains unconscious of anything. Has slept quietly at times during the day; eruption remains indistinct. Throat is not very sore, tongue moist; blister discharges very free from neck; pressure on abdomen excites uneasiness, diarrhoea checked. Continued same prescription.

30th, 9 o'clock, A. M. Passed last night better than any since attack; is rational at times this morning, talks some. Pulse 130, compressible.

6 P. M. Improvement is manifestly great. Continued whey, brandy, &c.

July 1, 9 A. M. There no longer remains any doubt that the patient is decidedly better; she is entirely rational this morning. Rash is out full and complete; uniform warmth of the body, tongue moist. No passage from bowels for last twenty-four hours. Prescription of wine whey, arrowroot, brandy and chicken broth.

2d, 9 o'clock, A. M. Is convalescing finely. Asks for her drink, and takes considerable notice of things, for the first time since her sickness; complains of the blister. Prescription, Ol. Ricini $\frac{3}{s}$ ss.; wine whey, arrowroot, chicken broth, soda biscuit, &c.

As no untoward symptoms occurred during her convalescence, I will not detain the reader by a daily report. On the eighth day, the girl was sitting up, and complained only of debility, which a few days' improvement counteracted. The quantity of wine used was one pint in five days, besides one gill of brandy with the arrowroot. The child has passed the summer in good health.

I will now add the cases of burns and variola, because their treatment was on the principle laid down in this essay, and they will assist me in elucidating the subject more fully.

Case I.—A girl, 5 years old, had been extensively burned by her frock taking fire. She had a convulsion on the third day, which lasted four hours, and was attended with a hot skin and suffused face. The pulse was *frequent* and *soft*, extremities rather cool. The tongue was precisely like that of scarlatina, where the fur would peal off and leave it morbidly red, with the papillæ elevated. Such was her condition when I was called in. I ordered wine whey immediately, and put her under the use of quinine, $\frac{1}{2}$ gr. every four hours. The convulsions ceased after three hours, but delirium continued during the evening and night. On the following day the cerebral symptoms had subsided, and the febrile condition was removed. The case continued on the use of quinine, with stimulants, and nourishing diet, for several days, and the burns healed up rapidly.

Case II.—A boy four years old, was extensively scalded. On the second day he was seized with apparently high fever, accompanied with delirium and convulsions. The tongue was hot and dry, papillæ elevated and red. Pulse *frequent* and *soft*, abdomen tumid, diarrhoea profuse, feet cool. He was treated with brandy toddy, and arrowroot, chalk mixture, and Dover powders, with starch enemas, and then put on quinine. In a few days all the cerebral difficulty had subsided. Profuse suppuration resulted from the deep injury of the scald. A repetition of the quinine was decidedly serviceable in checking it, and causing cicatrization, and the case progressively improved.

Variola—in a girl aged nine years.—On the evening of October 10th, 1840, I was called to the patient, and was informed she had been vomiting every thing she had taken during the day; she had been purged four or five times by a dose of senna and manna given the day previous. She now complained of intolerable headach, and was delirious the greater part of the time. The face was suffused, the skin of natural warmth, tongue small and coated, pulse soft and frequent, feet cool. R. Spts. Mindereri 3*i.* every two hours. Sinapisms to epigastrium and feet. Cold toast-water in small quantities for drink.

11th, 9 A. M. Vomiting had ceased. She still complains of great headach, and is delirious; tosses about the bed; is very restless and moans much of the time. When examining the tongue, I observed a few small *vesicles* on the under lip, which inclined me to think some eruption might be making its appearance; and the arm-pits and groins I found evinced some minute livid points, resembling in size and appearance gunpowder grains. Variola was at once, and for the first time, now suspected. Wine whey was immediately ordered, (one part of wine to two parts of milk,) of

which one ounce was to be given every hour; and arrowroot as common drink.

4, P. M. Eruption continues the same in appearance, and is becoming more extensive over the body. Cerebral symptoms no worse; pulse weak; no diarrhoea nor vomiting.

R. Sulph. Quiniæ, gr. xij.; Arom. Sulph. Acid, gtt. xv.; Syr. Zingiberis, 3*i.*; Cap. 3*i.* every two hours. Continue wine whey and wine in the arrowroot, as freely as she will drink it.

12th, 9 o'clock, A. M. Eruption still continues livid, and has extended from the body over the extremities. She passed an uneasy night, and was delirious. Bowels confined since the 10th, but no evacuation is desirable. Pulse soft; skin more uniformly warm. Headach somewhat better this morning; tongue cleaning off.

Continue wine whey and quinine in the same dose and interval—chicken broth.

13th, 9 o'clock, A. M. Eruption less livid. Pulse more vigorous, and the general exhaustion not so distressing. No symptoms were present which indicated a change of treatment, and it was continued with the addition of warm gin and water; for she had become tired of whey.

14th. Symptoms are encouraging. She had drank wine in arrowroot; chicken broth and gin and water; together with the quinine every two hours.

The eruption is filling out, and distinct pox are forming of a natural appearance. The bowels have not been moved since the tenth, nor have any laxatives been given since I was called to the case. The *pulse* forbade evacuants, although the encephalon might have demanded local relief.

15th, 9 o'clock, A. M. The patient continues to do well.

The bowels were spontaneously moved once this morning.

17th. All is going on well. The head is as easy as could be expected, and is somewhat swelled. Eyes are closed; pulse soft, 100; tongue clean; temperature natural; eruption confluent, and pus is becoming visible in the pox. The bowels were spontaneously moved to-day.

Up to this time (including six days) the child has taken arrowroot, chicken broth and barley water as drinks; together with one pint and a half of wine, either made into whey, or used with arrowroot. Also, five gills of gin made into sling; and has taken forty-five grains of quinine; while laxatives, relaxants and evacuants have been most carefully avoided. The case continued improving, and was entirely restored to health before the month was past.

Puerperal Fever.—Oct. 9th, 1840. Mrs. E., ætat. 32, had been confined with her third child. She had an easy labour of three hours, and no unfavourable symptom presented itself during the first week. On the ninth day after her delivery, she was suddenly seized with rigors

which almost amounted to an ague, and were soon followed by flushings of heat, great pain in the head, abdomen and loins. The lochiaæ were suppressed, and the secretion of milk much diminished. The pain continued for some hours unabated, and the febrile action was becoming more violent, when I was summoned to visit the lady.

9 o'clock, A. M. I found the patient as above described. Her pulse was 140, but weak; the skin hot and dry, and the pain intolerable—to use her own expression, she ached all over. A pediluvium was ordered *instanter*; a fomentation of hops and whiskey across the abdomen, and Ol. Ricini $\frac{3}{4}$ i. These remedies gave transient relief, but the pain returned in a short time, and the fever continued. Having resolved to try opiates in large doses when a case approximating to puerperal fever should next present itself to me, I thought this one was sufficiently decided, and its symptoms required prompt alleviation. Having evacuated the bowels, two of the following pills were ordered every hour and a half until the pain should cease.

R. Pulv. Opii. grs. ix.; Pulv. G. Camphoræ, grs. xxiv.; Pulv. Ipecac. grs. v.; Sulph. Quiniæ, grs. viij.; Muc. G. Acaciæ, q. s. ft. Pil. xij.

6 o'clock, P. M. Nine pills were given before any relief was obtained. The skin is now moist; the pulse less frequent; the pain in the head, abdomen and loins had greatly subsided. The remaining pills were to be given during the night, if the symptoms required them.

10th, 9 A. M. Passed a good night, but the pain returned in the morning—now, she cannot bear the least pressure on her abdomen. The milk remains much diminished, but there is a slight return of the lochiaæ this morning. The pulse is frequent and weak, the tongue furred, and the skin moist. There is no severe pain in the head. Barley water and arrowroot were used as drink. The fomentation and pediluvium are to be repeated, and two of the following pills taken every four hours :

R. Pulv. Opii. grs. vi.; P. Camphoræ, grs. xx.; Sulph. Quiniæ, grs. xij.; ft. Pill, xij.

8 o'clock, P. M. The nurse says, the patient is now entirely free from pain, and has fallen asleep; there is a gentle perspiration over the entire surface, and I left her undisturbed to be refreshed by repose.

11th, 10 o'clock, A. M. Rested well during the night; is free from pain and fever this morning, but complains of being very sore. Lochiaæ and milk abundant. A laxative was now prescribed; light diet, and Sulph. Quiniæ, $\frac{3}{4}$ i.; Elix. Vit. gtt. xxx.; Syr. Zingiberis $\frac{3}{4}$ ij. m. To take a teaspoonful every six hours. The object of the quinine was to fortify the system, and thereby prevent a return of the pain and fever. In this it succeeded; for she was soon enabled to leave her room with im-

punity, and during the ensuing month had no relapse.

The above cases are not reported with that nicety which my inclination would have prompted; but, as they were noted in much haste, and at a time when I had no thought of laying them before the public, I trust the execution will not effect the reader's deductions. In remarking on the general treatment adopted in the cases of scarlatina and burns, I have only to say, that formerly I attempted to relieve the brain symptoms by V. S.; leeches, warm bath, purgatives, enemas, relaxants, and counter-irritants; and three-fourths thus treated died. I reasoned that there had been a transfer or metastasis of irritation to the brain, or that incipient encephalitis was the fruitful source of so many formidable symptoms. My practice was of course energetic, and the effect speedy, but unsatisfactory. As to the case of puerperal fever, some might question it being genuine—it was such, however, as to satisfy my own mind. At all events, I have been informed by intelligent members of the profession, that these were the symptoms for which a score of leeches over the abdomen, with ice and cups to the head, drastics and blisters, &c., would be continually used, and *their* cases would die of "puerperal fever!" I am aware it is difficult to reconcile long cherished principles and established practices, with opposite sentiments and different treatment; but, venerable as any sanctioned course may be rendered by time, and plausible as it may seem to a thoughtless observer, yet well attested facts and correct observations are the only true methods of obtaining practical deductions. To clinical observations, I would refer any who are curious on the subject of this *Essay*; and if the views which it advances should prove hollow and feeble, let them pass into merited oblivion. But, if after a fair and thorough examination, clinical results should demonstrate the correctness of its principles, let them be diffused for the welfare of humanity and the promotion of science.—*New York Journal of Medicine and Surgery*.

Medical Faculty of the University of the City of New York.—The following appointments have just been made in this institution:—Hon. Theodore Frelinghuysen, Chancellor of the University, President of the Faculty. Granville Sharp Pattison, M. D., Professor of General, Descriptive, and Surgical Anatomy. Valentine Mott, M. D., Professor of the Principles, Practice and Operations of Surgery. John Revere, M. D., Professor of the Theory and Practice of Medicine. Martyn Paine, M. D., Professor of the Institutes of Medicine and Materia Medica. Gunning S. Bedford, M. D., Professor of Midwifery and the Diseases of Women and Children. John Williams Draper, M. D., Professor of Chemistry.

INTERMENTS in the City and Liberties of Philadelphia, from the 2nd to the 30th of January, 1841.

Diseases.	Adults.	Children.	Diseases.	Adults.	Children.
Abscess,	2	0	Brought forward, 98	91	
— of the brain, 1	0	0	Infl. of bronchi,	1	5
— of the liver, 1	0	0	— larynx,	0	1
— lumbar, 1	0	0	— liver,	1	0
Angina pectoris, 1	0	0	— lungs,	5	6
Apoplexy, 4	0	0	— peritoneum,	1	0
Asphyxia, 0	1	0	— stomach,	2	1
Burns, 0	2	0	— stomach and		
Casualties, 4	0	0	bowels,	1	0
Childbed, 1	0	0	Insanity,	1	0
Compression of the brain, 0	1	1	Intemperance,	2	0
Congestion of the lungs, 1	1	1	Jaundice,	0	1
Consumption of the lungs, 39	8	8	Laudanum to excess,	1	1
Convulsions, 3	19	Measles,	0	1	
— Puerperal, 1	0	0	Morbus caeruleus,	0	1
Croup, 0	4	0	Old age,	9	0
Debility, 1	5	0	Palsy,	3	0
Diarrhoea, 2	1	1	Rupture of a blood vessel,	1	0
Disease of the brain, 0	1	0	Scirrhous of the uterus,	1	0
— head, 0	1	0	Small pox,	2	7
— heart, 3	4	0	Spitting of blood,	1	0
— liver, 1	0	0	Still-born,	0	40
— lungs, 0	2	0	Suffocation,	1	0
— stomach, 1	0	0	Tabes mesenterica,	0	1
Dropsy, 2	0	0	Teething,	0	1
— abdominal, 2	0	0	Tumours,	0	1
— breast, 2	1	0	Ulceration of		
— head, 0	8	0	larynx,	1	1
— ovarian, 1	0	0	bowels,	1	0
Drowned, 1	0	0	Unknown,	1	4
Dysentery, 1	0	0	Total, 137	167	
Empyema, 0	1	0			
Enlargement of the heart, 2	0	0			
Executed, 1	0	0			
Exposure to cold, 1	0	0			
Fever, 0	1	0	Of the above, there were under 1 year, 105		
— bilious, 1	0	0	From 1 to 2 25		
— catarrhal, 0	4	0	2 to 5 21		
— puerperal, 1	0	0	5 to 10 4		
— scarlet, 0	10	0	10 to 15 4		
— typhoid, 1	0	0	15 to 20 9		
— typhus, 6	1	1	20 to 30 33		
Gangrene, 1	1	1	30 to 40 27		
Hernia, 0	1	1	40 to 50 18		
Hooping-cough, 0	2	0	50 to 60 22		
Inflammation of the brain, 7	7	7	60 to 70 11		
— breast, 0	3	0	70 to 80 16		
— bowels, 1	1	1	80 to 90 7		
			90 to 100 2		
Carried forward, 98	91	Total, 304			

In the above are included thirty-eight people of colour, and five interments from the country.

FOREIGN.

M. Andral on the value of Chemical and Physiological Experiments.— “The more complex that the composition of any animal fluid is, the more uncertain are the results of its analysis.

Take, for example, the blood: what do we really know about it? Little more, indeed, than that it is a fluid which holds in suspension numerous globules, of a determinate size, shape, and colour.

So difficult, indeed, is the chemical examination of organic substances, that we are continually finding chemists of the highest talents attributing to some of the fluids principles which are solely and altogether the result of their experiments in the laboratory. For example, Tiedeman and Gmelin, so celebrated for their analyses in organic chemistry, have admitted into the composition of the bile substances or principles which Dumas subsequently has most distinctly shown to be generated during the analytic operations to which they have been subjected.

Again, it is so difficult to reproduce phenomena altogether as nature has exhibited them, that often the substance which seems alike to our senses and our tests similar to another is, in reality, of a very different nature. Thus the (alleged) colouring matter of the blood, *haematosine*, separated by chemical means, does indeed exhibit characters which have led the most distinguished chemists to believe that it is to its presence that the peculiar colour of this vital fluid is owing;—and yet it does not reddens on exposure to the air, or even to pure oxygen. It cannot, therefore, be quite the same substance as that which exists combined with the other elements of the blood We cannot, indeed, wonder much at the imperfection of organic chemistry, seeing that it is only by analysis that we can discover the nature or composition of organized substances; almost all attempts at the synthetic test having failed.”

So much for the uncertainties of the results of chemistry applied to the discovery of organic bodies and of organic operations.

M. Andral proceeds next to point out the extreme difficulty of drawing accurate conclusions in physiology from experiments on living animals.

“In physiology,” says he, “the difficulties increase; another element, which we have not to guard against in animal chemistry, arises here; the chemist has to do only with dead matter, whereas in this new department of natural science the body is still under the influence of the vital power. All the phenomena of a living animal body—at least among the higher classes of the scale—are so linked together, that you cannot touch one without

making the others more or less suffer and sympathise. Do you try an experiment to detect a phenomenon which is carried on *au sein* of a living body? All the great functions are at once deranged in their mode of manifestation; more or less blood is lost; it no longer follows in the vessels its regular and normal course, and it becomes either quickened or retarded in consequence of pain and fright; the secretions are immediately altered; at the part where the incision is made, there is an afflux of the fluids and of sensibility; and that great vital property, excitability, is at once brought into play; in short, you induce a state of active hyperæmia, or inflammation.

Wherever you touch a living animal being, it is the nervous system which responds by disordered movements, and by alterations in the sensibility, and which thus at once disarranges the phenomena which you wish to produce. Hence the phenomenon, which you represent as isolated, is not in fact so; and for this reason, that no point can be touched without causing a greater or less amount of disturbance of the entire organism.

It is not, however, to be denied that, in certain cases, experimentation has thrown considerable light upon some points of physiology, and also of pathology. Thus, for example, the experiments on the fifth pair of cerebral nerves have afforded the point "de départ" of our knowledge of the morbid lesions of these nerves; we could not have known any thing on this subject, unless we had the data which experiments have supplied us with. It is by them also that the special functions of the *portio dura* have been discovered, and that certain pathological facts connected with these functions have been understood and explained. In other cases experiments on animals have been found to induce a train of morbid phenomena which are indisputably analogous with those which occur during certain diseases. Thus the injection of pus into the veins of animals has been observed to give rise to symptoms and appearances, which bear a striking resemblance with those exhibited in cases where a lesion of the blood has taken place spontaneously, as in scurvy, certain cases of typhus, the absorption of purulent matter, &c. Again, by experimenting we are enabled to study a certain number of the causes of diseases, as, for example, all the class of intoxications or poisonings—including under this term the introduction into the circulation not only of the common poisons from the mineral and vegetable kingdom, but also of miasms and of the various kinds of animal virus.

We find also, that by modifying the relative proportion of the constituents of the blood, various morbid states, which have their analogues in disease, may be induced. Thus, by withdrawing a certain quan-

tity of the fibrine of the blood, we promote the effusion into various tissues; whereas by increasing its viscosity, a series of phenomena of an altogether different character is induced; as has been distinctly proved by the recent experiments of *Majendie*.

..... There is, therefore, a certain number of pathological lesions which may be explained by the results of direct experimentation.

We can excite inflammation and suppuration; but we cannot induce the formation of false membranes, of tubercles, of cancer, of hydatids, &c. Some specific cause or action is necessary to give rise to such morbid productions.

Assiduous attention, however, to various circumstances which are daily presented to our view, will probably enable us at length to advance in this obscure department of pathology. Already we know that the generation of hydatids in sheep is certainly promoted by feeding on wet pasturage."

With the following brief remarks on certain necroscopic fallacies, we shall close our extracts from M. Andral's lectures for the present.

..... "During hot weather, we not unfrequently observe on the lining membrane of the heart and great bloodvessels a well-marked redness, and the appearance of high vascular injection, which is the result not of an inflammatory action, as has been too often supposed, but altogether of the changes in the fluids and solids produced by incipient putrefaction. There are not a few pathological works which, I venture to say, are 'frappés de nullité,' from authors not being aware of this and such-like occurrences.

For example; it is generally admitted that, under the influence of malignant fever, the tissue of the spleen is usually more or less extensively altered. Now, the late M. *Bailly*, of Blois, whose premature loss to medical science every one must regret, has, it is well known, published some valuable works on malignant intermittent fever; and in these he has particularly dwelt upon the remarkable changes in the spleen; such, for example, as the soft diffused disorganization of its tissue. But in all his observations no mention is ever made either of the lapse of time after death when the dissection took place, or of the heat of the weather at the time. Now, this very state of the spleen is found in every body, if the examination does not take place, during Summer, within thirty hours after decease. We cannot, therefore, rigorously adopt the statements of M. *Bailly*, as we are ignorant of the circumstances in almost every case which he has reported."—*Med. Chir. Rev. from Gazette des Médecins.*

METEOROLOGICAL REGISTER FOR JANUARY, 1841.
Kept at the Pennsylvania Hospital, by J. Conrad.

Date.	Thermometer.			*Dew Point	Barometer.		Winds.	Rain.	REMARKS.
	Max.	Min.	9 A.M.		10 A.M.	3 P.M.			
1	32	23	24	18	30.04	29.52	NE.	.750	N. E. storm; sleet from 8 A. M. till 5 P. M.; low clouds from E.
2	31	16	24	14	29.69	29.66	SW. NW.		Clear; blowing cold in evening.
3	12	5	5	-10	30.00	30.06	NW.		Cloudless; high wind.
4	17	5	10	0	30.32	30.30	W.SW.		Partly clear; wind moderate.
5	28	12	17	18	30.54	30.52	NE.		Cloudy; partly clear in aft.; rain in evening; wind brisk.
6	53	28	44	43	30.34	30.26	SE.	1.156	Rain all day; fog; calm.
7	58	48	58	53	30.04	29.94	S.SW.	.822	Rain; wind high.
8	50	37	44	36	30.13	30.08	NW.N.		Clear; evening partly clear; wind light.
9	45	33	36	34	30.21	30.16	NNW.		Morning clear; afternoon and evening cloudy; wind light.
10	39	35	36	34	30.19	30.13	NE.	.055	Light rain occasion'y; wind light.
11	46	38	39	39	29.96	29.83	NE.SW.	.392	Rain in morn; fog all afternoon and evening; wind light.
12	44	34	38	28	30.25	30.27	NW.		Clear; wind moderate; part clear in evening.
13	36	34	36	33	30.21	30.05	NE.	.531	Snow from 7 to 8 AM; snow and sleet in aft.; rain in eve; w. mod.
14	35	32	35	30	30.30	30.29	NE.	.006	Cloudy; wind brisk.
15	36	32	33	32	30.30	30.28	NE.N.	.143	Drizzling in morn.; aft. and ev'g cloudy; lower clouds from NE.
16	38	31	33	33	30.44	30.34	NE.SE.		Fog early in morning; cloudy all day.
17	50	35	50	43	29.90	29.80	SW.NW.	.812	Rain in morn; afternoon cloudy; evening clear; wind moderate.
18	34	12	19	-3	30.45	30.52	NW.		Clear; hazy; wind high; thermometer 20° at noon.
19	20	9	11	-1	30.83	30.80	NW.		Morning hazy; afternoon and evening cloudy; wind light.
20	32	20	22	23	30.66	30.51	NE.	.700	Snow storm all day, from 7 AM; sleet in evening.
21	39	31	36	34	29.95	29.85	NE.NW.	2.053	Heavy rain & high wind last n'; drizzling all day; sleet in ev'g.
22	36	29	36	23	30.05	29.99	NW.		Cloudy.
23	36	28	32	25	29.97	29.95	NW.		Cloudy.
24	48	32	38	32	30.00	29.86	SW.NW.	.002	Morning cloudy; clear at noon; afternoon cloudy; ev'g clear.
25	47	30	35	26	29.93	29.94	SW.NW.		Morning clear; afternoon cloudy; evening partly clear.
26	40	28	33	25	30.34	30.29	W.SW.		Clear; evening partly clear; wind light.
27	47	33	40	37	29.99	29.91	SW.	.030	Cloudy; rain from 5½ to 7 AM; evening clear; wind light.
28	47	33	40	32	30.20	30.22	NW.		Fair; hazy; wind light.
29	39	34	37	35	30.21	30.00	NE.	.385	Rain and sleet from 8 A.M. to 5 PM; wind brisk; clouds fm. E.
30	43	33	37	27	30.14	30.10	W.		Cloudy; evening clear; wind moderate.
31	44	28	36	27	30.16	30.08	W.SW.		Morn fair but hazy; afternoon cloudy; evening clear.
Mean	38.77	27.75	32.71	26.5	30.18	30.11		7.837	

Mean temperature,	33.26°	Clear days,	-	-	11
" pressure,	30.14 inches.	Cloudy,	-	-	11
" dew-point,	26.59°	Rain, snow, &c.	-	-	9

Winds—S. to W. 7 days; W. to N. 13 days; N. to E. 9 days; E. to S. 2 days.

* Average of three observations daily.